meoEdge

High Performance MEO/O3b Satellite Terminal

High Performance Multi-Mode Terminal

The introduction of the O3b MEO satellite constellation presents new opportunities for service providers. Gilat's meoEdge satellite terminal enables both TDMA and SCPC based services over O3b satellites using one remote equipment type. The terminal includes dual high performance SkyEdge II Accent VSATs that connect to two MEO tracking antennas. Since the frequency of handover between satellites is 20-40 minutes, the design incorporates seamless "make before break" handover from one VSAT to the other in order to maintain constant flow of traffic and maintain IP sessions. The meoEdge terminal supports very high throughput transmission via DVB-S2 outbound carrier and dual-mode (TDMA and SCPC) inbound access providing maximum service flexibility to operators.

Maximum Efficiency and Availability

meoEdge provides superior space segment bandwidth efficiency and enables high link availability through the use of DVB-S2 ACM (Adaptive Coding and Modulation) both in the outbound and inbound paths. For non-bursty traffic, the continuous DVB-S2 carrier access mode requires ~50% less space segment than MF-TDMA access mode. Bidirectional ACM allows the meoEdge terminal to monitor and adjust the transmission characteristics in each direction to the link conditions, providing operators with high availability service. In addition, meoEdge enables operators to share a large outbound carrier among all TDMA and SCPC terminals increasing the statistical bandwidth multiplexing for best bandwidth efficiency.

Single Management System

meoEdge is an additional member of the SkyEdge II family of VSATs. meoEdge terminals, like other SkyEdge II VSATs, is managed via the centralized SkyEdge II network management system (NMS). This architecture provides operators with a single management system to control, monitor and configure both TDMA and SCPC services on the same platform. In addition the NMS provides variety of unique capabilities such as automatic scheduling of SCPC carriers.

Benefits

- High performance satellite terminal supporting service rates up to 24Mbps/24Mbps on O3b MEO satellite constellation

- Dual inbound transmission waveforms - bursty mode MF-TDMA and continuous SCPC - supports mix of services

- Seamless handover between O3b satellites

- High availability service utilizing DVB-S2 ACM for both outbound and inbound

- Rich feature-set terminal supporting voice, data and video applications

- Ideal for cellular backhaul, ISP Point of Presence, IP trunking and more

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Technical Specifications

Outbound Carrier	
Standard	DVB-S2 Adaptive Coding and Modulation (ACM)
Satellite Switchover	Tx on both hub antennas, seamless receive signal switchover at the Terminal
Carrier Rate	300Ksps - 45Msps (in 1Ksps steps)
Modulation	QPSK, 8PSK, 16APSK, 32ASPK
Coding	LDPC and BCH (DVB-S2)
FEC Rate (DVB-S2)	1/4, 1/3, 2/5, 1/2, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10
Inbound Carrier	
Access Scheme	MF-TDMA DVB-RCS based and DVB-S2 ACM Continuous Carrier (SCPC)
Satellite Switchover	Tx on both, Seamless switchover at hub receivers
Channel Rates	DVB-RCS: 128Ksps-2.56Msps; SCPC: 300Ksps - 10Msps
Carrier Data Rate	Up to 4.4Mbps with DVB-RCS; Up to 24Mbps with SCPC
Modulation	DVB-RCS: QPSK, 8PSK; SCPC: QPSK, 8PSK, 16APSK
Coding	DVB-RCS TPC FEC ½, 2/3, 3/4, 4/5, 6/7; SCPC DVB-S2 FEC 1/4, 1/3 ... 9/10
Outdoor Unit	
Antenna Size (typical)	Ka-Band dual antennas: 1.8m, 2.4m
Linear BUC Power	Dual BUC, each antenna with its own BUC
LNB	Dual LNB, each antenna with its own LNB
Indoor Unit	
Enclosure	Installable into a 19" rack
RF Input/Output	Two F connectors, 75 Ohm, female
Data Interface	Two Ethernet 10/100BaseT
Operating Voltage	100-240VAC
IP Features	
Enhanced IP features	RIP, DHCP, NAT/PAT, IGMP, DiffServ, Multi VRF, VLAN
Other Features	Multilevel QoS
IDU Mechanical / Environmental Conditions	
Size (WxDxH)	480x340x135 mm (without rack mount addition)
Weight	10 Kg
Operating Temperature	0° to +50° C
Storage Temperature	-40° to +70° C
Relative Humidity	Up to 90%

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